

Abstract

An electric motor control apparatus of this invention estimates changes in temperature of a semiconductor device to compute temperature change amplitude 108 based on an output current signal 105 computed from a current flowing through the semiconductor device of a switching circuit 5, an operating frequency signal and a carrier frequency signal by a temperature change estimation part 11, and makes conversion into the number of power cycles 110 corresponding to the temperature change amplitude 108 from power cycle curve data stored in a power cycle curve data storage part 14 and computes a thermal stress signal 111 by a thermal stress computation part 13, and does life estimation of the semiconductor device based on the thermal stress signal 111 and produces an output to a display part 16 as a life estimation result signal 112 by a life estimation part 15a.